

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (currently amended) In a wireless communication network having a plurality of devices contending for access to the network, wherein the plurality of devices include devices that operate at different data rates when transmitting data on the network, a method comprising assigning network access parameters to one or more of the devices so as to control throughput on the network, the parameters including an assigned maximum data packet length for transmitting data according to a variable packet length control scheme, such that a greater data packet length is assigned for high data rate devices and a smaller packet length is assigned for low data rate devices.
2. (canceled)
3. (currently amended) The method of claim 1 [[2]], wherein the step of assigning comprises assigning the maximum data packet length so that all devices transmit data using data packets of a fixed time duration.
4. (canceled)

5. (currently amended) The method of claim 1[[2]], wherein the step of assigning comprises assigning a packet length for device (i) equal to  $L_{\max}/(R_f/R_i)$ , where  $L_{\max}$  is the maximum packet length for any device on the network,  $R_f$  is the rate of the fastest device and  $R_i$  is the rate of device (i).
6. (original) The method of claim 1, wherein the step of assigning comprises assigning a contention window size used by a device when it accesses the network.
7. (original) The method of claim 6, wherein the step of assigning comprises assigning a larger contention window size for slow data rate devices than for high data rate devices.
8. (original) The method of claim 1, and further comprising the step of detecting when a device goes on or off the network, and in response thereto, modifying the network access parameters of one or more devices.
9. (original) The method of claim 8, and further comprising determining when there is a change in the fastest data rate device in the network, and in response thereto, changing the data packet length or the contention window size used by one or more devices operating on the network.
10. (original) The method of claim 1, and further comprising the step of monitoring average access time of devices on the network, and changing the data packet length or the contention window size used by

one or more devices operating on the network in response to detecting a predetermined change in the average access time.

11. (currently amended) A wireless communication system comprising a plurality of wireless communication devices ~~capable of accessing~~ configured to access a wireless network using carrier sense multiple access procedures for transmission of data, the plurality of devices including devices that operate at different data rates when transmitting data on the network, each device accessing the network according to a network access control parameter to permit access to the network in a controlled manner, the parameter including an assigned maximum data packet length for transmitting data according to a variable packet length control scheme, such that a greater data packet length is assigned for high data rate devices and a smaller packet length is assigned for low data rate devices.
12. (original) The wireless communication system of claim 11, and further comprising a base device that transmits information to and receives information from any one or more of the wireless communication devices, wherein the base device assigns values for the network access parameter to one or more wireless communication devices so as to control throughput on the wireless network.
13. (canceled)
14. (currently amended) The wireless communication system of claim 11 ~~[[13]]~~, wherein the base device assigns a maximum data packet length

to one or more wireless communication devices so that all devices transmit data using data packets of a fixed time duration.

15. (canceled)
16. (currently amended) The wireless communication system of claim 11 [[13]], wherein the base device assigns a data packet length for device(i) equal to  $L_{\max}/(R_f/R_i)$ , where  $L_{\max}$  is the maximum packet length for any device on the network,  $R_f$  is the rate of the fastest device and  $R_i$  is the rate of device(i).
17. (original) The wireless communication system of claim 12, wherein the base device assigns a contention window size as the network access control parameter to be used by a wireless communication device when accessing the network.
18. (original) The wireless communication system of claim 17, wherein the base device assigns a larger contention window for slow data rate devices than for high data rate devices.
19. (original) The wireless communication system of claim 12, wherein the base device detects when a device goes on or off the network, and in response thereto, modifies the network access parameters of one or more devices.
20. (original) The wireless communication system of claim 19, wherein the base device determines when there is a change in the fastest data rate device in the network, and in response thereto, changes the data

packet length or the contention window size used by one or more devices operating on the network.

21. (original) The wireless communication system of claim 12, wherein the base device monitors average access time of devices on the network, and changes the data packet length or the contention window size used by one or more devices operating on the network in response to detecting a predetermined change in the average access time.
22. (original) The wireless communication system of claim 11, wherein each device that access the network uses a network access control parameter appropriate for its data rate so that all devices occupy the network for a substantially equal period of time when transmitting a data packet.
23. (currently amended) A processor readable memory medium encoded with instructions that, when executed by a processor, cause the processor to perform steps comprising:
  - a. determining the data rate with which each of a plurality of wireless devices access a wireless network; and
  - b. assigning a network access parameter for one or more of the wireless devices so as to control throughput on the wireless network, the parameter including an assigned maximum data packet length for transmitting data according to a variable packet length control scheme, such that a greater data packet length is assigned for high data rate devices and a smaller packet length is assigned for low data rate devices.

24. (canceled)
25. (currently amended) The processor readable memory medium of claim 23 [[24]], wherein the instructions for assigning comprise instructions for assigning the data packet length so that all devices transmit data using data packets of a fixed time duration.
26. (canceled)
27. (currently amended) The processor readable memory medium of claim 23 [[24]], wherein the instructions for assigning comprise instructions for assigning a packet length for device (i) equal to  $L_{\max}/(R_f/R_i)$ , where  $L_{\max}$  is the maximum packet length for any device on the network,  $R_f$  is the rate of the fastest device and  $R_i$  is the rate of device (i).
28. (currently amended) The processor readable memory medium of claim 23, wherein the instructions for assigning comprise instructions for assigning a contention window size used by one or more of the devices [[a device]] when accessing the network.
29. (original) The processor readable memory medium of claim 28, wherein the instructions for assigning comprise instructions for assigning a larger contention window size for slow data rate devices than for high data rate devices.
30. (original) The processor readable memory medium of claim 23, and further comprising instructions for detecting when a device goes on or comes off the network, and in response thereto, modifying the network access parameters of one or more devices.

31. (original) The processor readable memory medium of claim 30, and further comprising instructions for determining when there is a change in the fastest data rate device in the network, and in response thereto, changing the data packet length or the contention window size used by one or more devices operating on the network.
32. (original) The processor readable memory medium of claim 23, and further comprising instructions for monitoring average access time of devices on the network, and changing the data packet length or the contention window size used by one or more devices operating on the network in response to detecting a predetermined change in the average access time.
33. (original) A wireless communication device comprising the processor readable medium of claim 23, and further comprising:
  - a. a radio transceiver that transmits and receives radio frequency signals via the wireless network; and
  - b. a processor that supplies signals to be transmitted by the radio transceiver and processes signals that are received by the radio transceiver, wherein the processor executes the instructions stored on the processor readable medium.
34. (currently amended) A wireless communication device that operates in a wireless network that employs carrier sense multiple access procedures, the device comprising:

- a. a radio transceiver that transmits and receives radio frequency signals via the wireless network; and
  - b. a processor that supplies signals to be transmitted by the radio transceiver and processes signals that are received by the radio transceiver, wherein the processor generates packets of data for transmission via the radio transceiver according to a network access control parameter configured to control throughput on the wireless network, the parameter including an assigned maximum data packet length according to a variable packet length control scheme, such that a greater data packet length is assigned for high data rate devices and a smaller packet length is assigned for low data rate devices.
35. (original) The wireless communication device of claim 34, wherein the processor processes a signal received from another communication device, which signal includes a network access control parameter message that is stored in a memory, wherein the network access control parameter is a parameter selected from the group consisting of: a maximum data packet size and a contention window size.